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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/533,664 | 05/03/2005 | Harald Rohde | 2002P17862WOUS | 6222 |

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Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, NJ 08830

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| EXAMINER |
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LAMB, CODY W

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| ART UNIT | PAPER NUMBER |
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2609

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10/02/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/533,664

Applicant(s)

ROHDE, HARALD

Examiner

Cody W. Lamb

Art Unit

2609

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 05/03/2005.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 8-11, 18-20 and 23-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Winston Way et al. (US Patent Application Publication No. 2002/0030877) referred herein as Way.

Regarding claim 8, Way teaches a device comprising an optical resonator (paragraph 77 and figure 10 item 218), where the optical resonator is preceded by an optical coupling-out device for reflected light from the resonator (paragraph 77) wherein the optical coupling-out device is followed by an opto-electric transducer (figure 11, item 232 and paragraph 83) and the resonance of the optical resonator has a resonance frequency which is tuned to the light frequency (paragraph 77).

Regarding claim 9, Way teaches the limitations of claim 8. Way also teaches an embodiment where the optical resonator is a Fabry-Perot resonator (paragraph 77).

Regarding claim 10, Way teaches the limitations of claim 8. Way also teaches using a circulator for the coupling-out device preceding the resonator (paragraph 77)

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where the output of the circulator is connected to the opto-electric transducer (paragraph 83).

Regarding claim 11, Way teaches the limitations of claim 9. Way also teaches using a circulator for the coupling-out device preceding the resonator (paragraph 77) where the output of the circulator is connected to the opto-electric transducer (paragraph 83).

Regarding claims 18, 19 and 20, Way teaches the limitations of claims 8, 9 and 10 respectively. Way further teaches assigning phase modulation (by a Mach-Zehnder) to optical signals for transmission through or reflection from the resonator (paragraph 77).

Regarding claim 23, Way teaches a receiver comprising an optical resonator fed by an angle-modulated (known to be phase-modulated) signal (figure 10, item 218 and paragraph 77), an optical uncoupling mechanism upstream of the optical resonator for light reflected from the optical resonator (circulator, paragraph 77), an opto-electric converter downstream of the optical uncoupling mechanism (figure 11, item 232), wherein the resonator has a resonance frequency centered at the light frequency and is transmitted or reflected based on the phase modulation (paragraph 77).

Regarding claim 24, Way teaches the limitations of claim 23. Way also teaches an embodiment where the optical resonator is a Fabry-Perot resonator (paragraph 77).

Regarding claim 25, Way teaches the limitations of claim 23. Way also teaches using a circulator for the coupling-out device preceding the resonator (paragraph 77)

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where the output of the circulator is connected to the opto-electric transducer (paragraph 83).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 12, 13, 21 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Way in view of Edward Gabl et al. (US Patent No. 5,592,327) referred herein as Gabl.

Regarding claim 12, Way teaches the limitations of claim 8. However, Way does not teach a polarization beam splitter with a polarization plate for separating the optical signal and reflected light that have different polarizations after passing through the plate. Gabl teaches a system where a polarization beam splitter is used to couple out reflected light (figure 2, item 16), and a polarization plate is used to rotate reflected light so that its polarization is different from the input signal (figure 2, item 17 and column 7, lines 8-16). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine the teaching of Gabl with the teaching of Way in order to selectively eject certain amplified ultrashort pulses of a given polarization from the gain medium of a laser cavity (column 7, lines 4-21).

Regarding claim 13, Way teaches the limitations of claim 9. However, Way does not teach a polarization beam splitter with a polarization plate for separating the optical signal and reflected light that have different polarizations after passing through the plate. Gabl teaches a system where a polarization beam splitter is used to couple out reflected light (figure 2, item 16), and a polarization plate is used to rotate reflected light so that its polarization is different from the input signal (figure 2, item 17 and column 7, lines 8-16). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine the teaching of Gabl with the teaching of Way in order to selectively eject certain amplified ultrashort pulses of a given polarization from the gain medium of a laser cavity (column 7, lines 4-21).

Regarding claim 21, Way and Gabl teach the limitations of claim 12. Way also teaches assigning phase modulation (by a Mach-Zehnder) to optical signals for transmission through or reflection from the resonator (paragraph 77).

Regarding claim 26, Way teaches the limitations of claim 23. However, Way does not teach a polarization beam splitter with a polarization plate for separating the optical signal and reflected light that have different polarizations after passing through the plate. Gabl teaches a system where a polarization beam splitter is used to couple out reflected light (figure 2, item 16), and a polarization plate is used to rotate reflected light so that its polarization is different from the input signal (figure 2, item 17 and column 7, lines 8-16). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine the teaching of Gabl with the teaching of Way in order to selectively eject certain amplified ultrashort

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pulses of a given polarization from the gain medium of a laser cavity (column 7, lines 4-21).

5. Claims 14-16, 22 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Way in view of Hiroshi Onaka et al. (US Patent No. 5,469,288) referred herein as Onaka.

Regarding claims 14, 15 and 16, Way teaches the limitations of claim 8, claim 9 and claim 10 respectively. However, Way does not teach a second opto-electric transducer following the optical resonator for increasing sensitivity. Onaka teaches an apparatus where a second opto-electric transducer follows a Fabry-Perot filter (figure 21 and column 17, lines 41-45). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine the teaching of Way with the teaching of Onaka for stopping waveform sweeping when no light signal has arrived (column 17, lines 54-57).

Regarding claim 22, Way and Onaka teach the limitations of claim 14. Way also teaches assigning phase modulation (by a Mach-Zehnder) to optical signals for transmission through or reflection from the resonator (paragraph 77).

Regarding claim 27, Way teaches the limitations of claim 23. However, Way does not teach a second opto-electric transducer following the optical resonator for increasing sensitivity. Onaka teaches an apparatus where a second opto-electric transducer follows a Fabry-Perot filter (figure 21 and column 17, lines 41-45). Therefore, it would have been obvious to a person having ordinary skill in the art at the

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time the invention was made to combine the teaching of Way with the teaching of Onaka for stopping waveform sweeping when no light signal has arrived (column 17, lines 54-57).

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Way and Gabl as applied to claim 12 above, and further in view of Onaka.

Regarding claim 17, Way and Gabl teach the limitations of claim 12. However, Way and Gabl do not teach a second opto-electric transducer following the optical resonator for increasing sensitivity. Onaka teaches an apparatus where a second opto-electric transducer follows a Fabry-Perot filter (figure 21 and column 17, lines 41-45). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine the teaching of Way with the teaching of Onaka for stopping waveform sweeping when no light signal has arrived (column 17, lines 54-57).

Conclusion

7. Any response to this Office Action should be faxed to (571) 273-8300 or mailed to:

Commissioner for Patents,
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to
Customer Service Window
Randolph Building

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401 Dulany Street
Alexandria, VA 22314

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cody W. Lamb whose telephone number is 571-270-1797. The examiner can normally be reached on Monday - Friday 8 a.m. - 5 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benny Tieu can be reached on 571-272-7490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Cody W. Lamb
Examiner, Art Unit 2609
17 September 2007


BENNY Q. TIEU
SPE/TRAINER